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agricultural marketing

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NATIONAL CONFERENCE ON Milk and Nutrition



UNITED STATES DEPARTMENT OF AGRICULTURE



Volume 7, Number 2

ORVILLE L. FREEMAN
Secretary of Agriculture

S. R. SMITH, Administrator
Agricultural Marketing Service

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Cover page

America's newest and youngest President, like a large segment of the Nation's population, is vitally concerned about the declining use of milk. Produced in almost every State of the Union, it's often called Nature's most nearly perfect food.

Speaking before a large assemblage at a recent National Conference on Milk and Nutrition, the President brought forth some ringing facts.

Among them: Last year's consumption of milk, or butter, cheese and ice cream, fell somewhere between 2 and 3 billion pounds below the 125 billion pounds of dairy products used in 1960. While our population rose 1.7 percent last year—milk production climbed 1½ percent—yet consumption declined 2½ percent.

The President said this is a serious matter for all of us—serious for the dairy industry, for all farmers, and for our population, nutritionwise. Lamenting this decline in milk consumption, he also recalled that milk production in this country provides twice as much cash income for farmers as any other basic crop.

Editor, MILTON HOFFMAN

Assistant editor, DANIEL W. HICKY

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Packaged lunches were prepared in the nearest school with kitchen facilities and then picked up and delivered by teachers. At lunchtime, each child received tomato juice, turkey sandwich, cheese, graham-cracker peanut-butter sandwich, an apple, full pint of milk.

Needy Schools Get A Lunch Program

by STEVEN A. BRETH

RECENTLY, children in two tiny West Virginia schools ate what is probably their first nutritionally balanced meal—a school lunch. These children, and others like them, would never have received school lunches if it hadn't been for the initiative of a West Virginia school lunch official and the incentive of a new Federal program.

The official is Mrs. Faith Gravenmier, West Virginia School Lunch Supervisor. The program is the U.S. Department of Agriculture's Special Commodity Assistance Program. Mrs. Gravenmier set up a bag lunch plan to give children in needy schools balanced lunches, and USDA's new assistance program provides the commodities for the State's experimental plan.

The children are in Claremont and Thayer schools in Fayette County, West Virginia. These two remote elementary schools are high on a mountainside overlooking the New River. The area is hard-hit economically, since coal mines are closed and other employment opportunities are meager.

Facilities in the schools reflect the troubled economy of the surrounding area. Toilets are outdoors, running water nonexistent. Handstoked coal stoves heat the classrooms, and the

schools were unable to afford the equipment for a school lunch program.

Many of these children suffer from malnutrition. A University of West Virginia Medical School study found most of the children undersize and underweight for their ages.

To provide children in needy schools with a more adequate diet, West Virginia set up this bag lunch plan. Under it, each child is assured a USDA "Type A" lunch daily. This type lunch is designed to give a child a third of his minimum daily nutritional requirements in a wholesome and appetizing form. The bag lunch plan also makes it unnecessary for needy schools to have food preparation facilities, since existing kitchens in nearby schools are used.

On the first day of the West Virginia bag lunch plan, lunches were prepared and packed in paper bags in Scarbro School—the nearest school boasting a kitchen. School cooks used USDA donated food plus items purchased locally, and the lunches were picked up and delivered by teachers from the Claremont and Thayer schools.

At lunchtime that day, each child received tomato juice, a turkey sandwich, a wedge of cheese, a cup of whole cranberry sauce, a graham cracker-peanut butter sandwich, an apple, and a full pint of milk—a menu that exceeds

USDA's Type A lunch requirements. When the plan is in full swing, Mrs. Gravenmier says the bag lunch will provide two-thirds of a child's minimum daily dietary requirements.

Ultimately, the West Virginia plan will include 2,000 children in three counties. But all lunches will not be free—children that can pay, will. Thus, needy children will get their lunches free, or at reduced cost.

The Special Commodity Assistance Program was set up to provide pupils in especially needy schools throughout the Nation with lunches. This year, up to \$2,500,000 was authorized by Congress for use in buying special commodities that would enable needy schools to have a lunch program. In addition, by providing lunches, needy schools are eligible for reimbursements from Federal school lunch funds to help buy foods locally.

Not all the participating States' plans will be the same as West Virginia's bag lunch plan—but all of them will assure that more of America's needy children will receive attractive, nutritionally balanced lunches every day.

The author is an information specialist in the AMS Marketing Information Division, Northeast Area Office in New York.

HANDLING LIVESTOCK CLAIMS

Under the Packers and Stockyards Act

FORM PS-202
(10-6-61)

UNITED STATES DEPARTMENT OF AGRICULTURE
BEFORE THE SECRETARY OF AGRICULTURE

FORM APPROVED
BUDGET BUREAU NO. 40-R1769.3
USDA - AMS



REPARATION COMPLAINT

John W. Brown

(NAME AND ADDRESS OF COMPLAINANT)
R.F.D. # 3 - Box 193

Greenridge, Illinois

COMPLAINANT(S)

vs.

Greenridge Livestock Market
(NAME AND ADDRESS OF RESPONDENT)
Greenridge, Illinois

COMPLAINT

The following complaint is submitted pursuant to section 309(a) of the Packers and Stockyards Act, 1921, as amended.

(1) DATE OF TRANSACTION May 4, 1961	(2) NAME AND ADDRESS WHERE TRANSACTION OCCURRED (Stockyard, etc.) Greenridge Livestock Market Greenridge, Illinois
(3) AMOUNT OF REPARATION CLAIMED \$200.00	(4) STATE BRIEFLY THE FACTS CONCERNING THE TRANSACTION INVOLVED, INCLUDING TERMS OF CONTRACTS OR AGREEMENTS (Attach supporting documentary evidence)

On May 4, 1961, at 6:00 a.m., Mr. Jack Smith, a trucker, picked up 25 head of fat steers at the Jolly Roger Farm, 16 miles south of Greenridge. The 25 cattle were owned by me and were consigned to the Greenridge Livestock Market to be sold that day for me. Mr. Smith delivered the cattle to the Greenridge Livestock Market at 7:15 a.m. that day. The trucker helped unload the cattle and received a copy of the waybill showing 25 steers had been delivered. Mr. Smith helped drive the steers to pen 306 where there was feed and water. The steers were in good condition when Mr. Smith left the yards at 8:30 a.m. Mr. Smith stated that there were 25 steers in the pen when he left the yards. When I received my papers from the Greenridge Livestock Market in the mail on May 8, 1961, they had only sold 24 head of cattle for me on May 4 and paid me for that number. The sales sheet shows the cattle came from pen 306 in which my cattle had been yarded.

(5) STATE HOW YOU ARRIVED AT AMOUNT CLAIMED, AND ITEMIZE.

One steer 800# at \$25.00 per cwt. \$200.00

The 24 steers sold by the Greenridge Livestock Market on May 4, 1961, averaged 800# and sold for \$25.00 per cwt., and the steer not accounted for was an average animal

(6) DATE
May 12, 1961

(7) SIGNATURE OF COMPLAINANT
/s/ John W. Brown

insufficient, continue on separate sheet and attach.
(SEE REVERSE FOR INSTRUCTIONS AND INFORMATION)

A new program directs the AMS Packers and Stockyards Division to conduct educational programs for livestock producers, so that they will know the protections the Act gives them and procedures for filing reparation claims.



The author fills out a reparation form for a livestock producer who has come into his office with a complaint.

by JACK BRINCKMEYER

PROVISIONS of the Packers and Stockyards Act continue to spread a most welcome umbrella of protection over livestock producers and their various operations.

For instance: A livestock producer consigned 25 head of cattle to a stockyard for sale. He received payment, however, for only 24 head, at about \$200 per head. Although it might have been only a mistake in ownership, the producer still had a substantial loss.

How does he claim the extra \$200 which is due him for his livestock?

This can be done through provisions in the Packers and Stockyards Act. The Act can help the producer who has a loss in any transaction covered by the Act—and also outlines the procedure he must follow in order to recover on his claim.

A program for "aggressive administration" of the Act was outlined recently by Secretary of Agriculture Orville L. Freeman. The program directed the AMS Packers and Stockyards Division, which administers the Act, to "conduct an extensive educational program for livestock producers, so they will know the protections the Act gives them and the procedures they should follow in filing reparation complaints."

This procedure is designed to help the producer receive payment from a market agency, stockyard owner, or a livestock dealer, who fails to pay for consigned livestock; who fails to provide just and reasonable services; who fails to maintain a legal schedule of rates; or, who in any way may damage the livestock producer through a violation of certain provisions of this Act.

Following a loss, the producer should

first go to the person or firm he thinks is responsible for the loss and present his claim. If the claim cannot be settled in this manner, the producer may then look to the Act.

The Act provides for the following procedures:

First, the producer who feels he has a just claim may file a complaint with his district P&S field office on a form provided by them.

The complaint must be in writing and filed within 90 days after the loss. It must contain the names of all persons involved; the date and place of the transaction; date of shipment; date the livestock was received, sold, and weighed; and a concise explanation of the transaction and the basis for damages.

Second, the P&S district supervisor attempts to settle the claim "informally"—that is, he brings together the livestock producer and the operator for informal discussion of the situation.

Owners of stockyards and market agencies, and dealers, will normally cooperate with the Division, and attempt to settle the claim at an early date.

It is only good business for them to settle a livestock claim as promptly as possible, since the goal of most market operators is to keep their customers satisfied. As soon as the facts are known and the extent of the loss is ascertained, they are usually willing to offer a reasonable settlement.

This informal method is generally quite successful. During the fiscal year 1961, field offices of the P&S Division received as many as 700 reparation complaints. Of these, 495 were settled informally with \$136,262 being paid to complainants—principally livestock producers.

Third, in the event the claim cannot be settled by this informal method, the district P&S supervisor will prepare an investigative report showing the facts of the transaction and forward it and the complaint to the Division's office in Washington. The complaint, along with the report, is served on the respondent, or the defendant in the action.

The respondent then has 20 days in which to file an answer. If he fails to file he is considered to have admitted the claim. If an answer is filed, the complaint may be set for a hearing that is conducted before a Department of Agriculture "presiding officer," who rules on the claim—on the basis of evidence in the hearing record.

If the respondent fails to pay a reparation award, suit may be brought in a Federal court for a judgment on the award.

In the 40 years the Act has been in effect—according to a P&S Division study—reparation awards have been made on formal actions ranging up to \$27,000 in size, and averaging \$919.

Increased coverage of the Packers and Stockyards Act by its 1958 amendment, which grew from 600 to more than 2,200 in the number of stockyards under its control, also gave more protection to livestock and poultry producers in reparation procedures.

The livestock producer is protected by this Act—but he needs to know how he is protected, and how he can proceed to protect himself, in order to reap its benefits.

The author is a marketing specialist in the Packers and Stockyards Division, Agricultural Marketing Service, U. S. Department of Agriculture.

MARKET

NEWS



Produce Merchants Count on Daily Market News Reports

by FRED S. NIGHTINGALE

IN THE EARLY hours of the morning, several months ago, an automatic punchcard machine broke down in the Washington office of the U.S. Department of Agriculture's Fruit and Vegetable Market News Service. As a result, the daily report on shipments and unloads of fruits and vegetables was about two hours late.

For two reasons this was a noteworthy occurrence: (1) the shipments and unloads reports are seldom late; (2) the reaction of the trade.

In the New York office of the Market News Service, the phones began to ring shortly after 9:30, when the report usually comes in. All six lines were soon "lit up," and they stayed that way until the report came in at 11:15, as produce merchants on the New York market called to get word on the missing information.

The same thing was happening at other market news offices at terminal markets and shipping points around the country. Produce men called, and kept calling, to make sure they got the information as soon as it was available.

Why? Well, thousands of rail cars and trucks crisscross the United States every day, carrying fresh fruits and vegetables to market—and each load is part of the supply picture which governs the prices these men will get.

There's only one place where infor-

mation on all these thousands of daily shipments is brought together—the Fruit and Vegetable Market News Service, administered by the Agricultural Marketing Service as part of its effort to provide complete and timely marketing information on all the major agricultural commodities.

What do these fruit and vegetable transportation reports mean to growers and merchants?

Well, suppose you're shipping asparagus from New Jersey. The daily market news reports show prices paid, as well as total unloads, in 41 of the major cities around the country. By correlating the two, you can develop a "rule of thumb" that will show you what price trend to expect.

In the 1960 season, for instance, you would have found that a total of 70 cars of asparagus moving into the 41 cities on a given day usually led to lower New Jersey auction prices. Daily receipts of 30 to 40 cars led to higher auction prices during the first part of the season, but not toward the end, when demand—and sometimes quality—dropped off.

Lettuce growers figure that a total of 325-375 cars moving on one day means a fairly steady market. Movement of over 375 cars indicates price trouble ahead, while less than 325 cars points to a "live" market that should advance. Of course, other factors such as terminal holdings and weather enter into the calculations too.

With practice, you can use the price and shipment reports as a price-trend

"barometer" for any major produce crop.

Back in the 1920's, almost all the long-distance produce shipments moved by railroad, and that's where the information for the shipment reports was obtained. Some 1200 railroad division superintendents across the country wired the number of cars of produce originating at their stations to the Washington market news office each night.

By tallying the telegraphed information, the Market News Service got the total movement of fruits and vegetables for the previous day.

This system has worked so well that it is still used for gathering rail shipment information.

Much of the fruit and vegetable traffic today, though, moves by truck, so that rail shipments alone are no longer an accurate indicator of supplies.

And, since trucks come and go unannounced, with no central control points, gathering information on all truck shipments would not be economically feasible.

The Market News Service's answer has been the 41-cities unloads report. In these cities, the market news men not only collect rail arrivals daily, but they also check all the receivers to find out what supplies they've received by truck.

Since these 41 metropolitan areas contain 40 percent of the total U.S. population, and receive about 60 percent of the total fruit and vegetable shipments, this unload figure is the best indicator now available of the daily

The author is Chief, Market News Branch, Fruit and Vegetable Division, AMS.

national movement of fruits and vegetables, and current supplies into the country's larger markets.

The Market News Service also issues weekly summaries of rail shipments and total unloads of each commodity in the 41 cities. Quarterly and annual summaries of produce unloads, classified by commodity, State of origin and month,

are available too, along with an annual summary of fruit and vegetable shipments classified the same way.

Weekly "receipts summaries" are issued through shipping area offices for selected commodities during the seasons of their heavy shipments. These releases show total weekly receipts by individual cities indicating current dis-

tribution patterns for the commodities being reported.

All of these reports are intended to give produce men the information they need to aid them in making their marketing decisions. Growers, shippers, receivers and other merchants all use it—and when the reports are late, they'll "light up the phones" to get it.

Dial Jers-I-Tas for Up-to-the-Minute Market Information

THESE has long been a need to provide up-to-the-minute market news information to producers and handlers of highly perishable commodities.

JERS-I-TAS (Jersey-information-telephone answering service) is filling that need in South Jersey, a concentrated production area of "critical crops"—strawberries, asparagus, sweet corn, peaches and lettuce, to name a few.

Fruit and vegetable growers can now pick up their phones, dial a number, listen to a recorded two-minute news coverage—including information on prevailing market prices, the supply and demand situation for each crop, market conditions in competitive growing areas and terminal markets, and weather conditions.

All principal crops in season are reported. Previous day's late trading activities at local produce auction markets and major terminal markets are made available at 9 a.m. Current day's quotations from New York and Philadelphia markets, including F.O.B. prices, are recorded for transmission by 10:30 a.m. A complete roundup of local auction sales for the same day is included in a late report beginning at 3:30 p.m. Any changes are added for a final 4:30 p.m. report.

The information is compiled by a Federal-State market news reporter located in the Philadelphia office of the United States Department of Agriculture. He calls his report in to the Bridgeton office of the New Jersey Department of Agriculture, and it is simultaneously recorded for use on the telephone answering device.

Three machines are in operation during the season; one in the off-season. As many as sixty calls a day have been noted. The equipment is the latest available from the New Jersey Bell Telephone Company, incorporating a two-minute tape. Up until very recently, only one-minute recording devices were in use.

In an era where time is money—especially in the marketing of these critical crops where condition is of such importance—JERS-I-TAS, according to New Jersey Secretary of Agriculture Phillip Alampi, "is a real economic aid to the farmer, providing accurate, up-to-the-minute information which he can put to practical use."

A telephone answering device records the information called in by a Federal-State market news reporter. At the right, a grower gets this recorded information by picking up the phone and dialing a number—the same way he gets weather news and correct time.





Freedom from hunger comes first . . . all over the world

THE STRATEGY

by SHERMAN E. JOHNSON

THE DRIVING purpose of all our food aid programs is to promote economic growth and welfare in less-developed countries.

In 1858, Abraham Lincoln said he believed that "this government cannot endure permanently half slave and half free." I believe the free world cannot endure while three-fifths of the world population is hungry and two-fifths is well fed, even overfed.

Freedom from hunger comes first. All other freedoms must follow it.

Food is the first step in an integrated program of national development. Plentiful food supplies are essential for high worker productivity and low-cost industrial production.

Suppose, for example, a struggling country manages to launch a program of industrial development by building

new plants, highways, and communication systems. With more money generated by construction jobs, the population can buy more food. But, if no more food is on hand, the government faces an impossible choice. It can spend its limited foreign exchange on food imports, curtailing, if not halting, its industrial program. Or it can permit rising food prices to stifle economic progress.

That's what happened to India in 1958 and 1959. At just such a point U.S. food aid programs stepped in and pushed the economy over the hill.

American wheat and other cereals shipped to India in that crucial period gave the country a breathing spell.

The shipments resulted in more stable food prices, discouraged hoarding and speculation, and permitted free movement of wheat from State to State.

So why, critics ask, should we care what happens on the other side of the globe? The answer is we can't afford not to. The free world has too much work ahead of it to shamble along on an empty stomach.

There is another reason. Hunger is an old story to man—but now he is hearing a new one. Radio, magazines, newspapers, travelers flying in from the far corners of the globe, are all carrying the word to the remotest village—hunger is no longer inevitable.

THE COMMUNISTS, needless to say, are telling all who will listen that theirs is the shortest route from poverty to plenty.

Food is the most direct counter we have to the Communist argument. And it is perhaps the only one that matters much to a hungry man.

Our own farmers benefit from food



... all other freedoms must follow it.

GY OF FOOD AID

aid programs, too. It has been obvious for some time now that our food production capacity will exceed prospective domestic and foreign commercial markets for many years to come. Foreign assistance now, in the form of food and fiber, can help build self-sustaining economies, economies which will, in the long run, mean larger commercial markets for our farm products.

The U.S. Government financed about 75 percent of our agricultural exports to Italy in 1955-56. But in 1959-60, only 23 percent of a much larger volume of agricultural exports was shipped under food aid programs.

What with their own increased agricultural output, the Italian people were getting more food, and American farmers were chalking up bigger sales.

Much the same story is true of our agricultural trade with Japan. The percentage of agricultural exports financed

by the U.S. Government dropped from 33 percent in fiscal year 1955-56 to a bare 4 percent of a larger volume of exports in 1959-60.

If food shipments are going to bolster the free world, we may have to revamp some of our attitudes.

In this country we will have to abandon the notion that food aid is a handy way to dump our surpluses. And governments on the receiving end must be willing and able to carry out long-range programs to bolster their economies.

They need to build up facilities for receiving, storing, transporting, and distributing our food aid. They also have to increase their own output of farm products and raise their national incomes. Even more important, they have to do some work on their educational, political, and economic institutions if they intend to stay in the race.

THE RECENTLY released World Food Budget (Foreign Agricultural Economic Report No. 4) lists 70 underdeveloped countries. Most of these nations are part of the free world community, and nearly all need food.

In fiscal year 1960-61, we exported 57 percent of our rice production, 49 percent of our wheat and cotton, and 41 percent of our soybeans. Government-financed programs accounted for nearly a third of our agricultural exports.

Food and other aid programs can help turn this portion of our exports into a commercial market for our farm products. And they can strengthen the free world at the same time.

The author is Deputy Administrator, Foreign Economics, Economic Research Service, U. S. Department of Agriculture.

Bright Future for PROCESSED POTATO PRODUCTS



by HARRY H. HARP

POTATOES have taken on a new look, due to their widely accepted processed products, and a bright future is predicted for them.

For instance, the proportion of potatoes used for processed foods increased from a mere 2 percent of the 1940 crop to nearly 25 percent of the 1960 output—and, by 1970, it is estimated that over 50 percent of the crop will be processed.

While substantial growth has occurred in the demand for dehydrated mashed and frozen French fried potatoes, even further expansion is expected, according to a recent USDA marketing study.

The utilization of potatoes for processing into frozen French fries and dehydrated mashed potatoes nearly doubled from 1958 to 1960. Half of the potatoes used for processing from the 1960 crop were processed into dehydrated and frozen products, but a potentially large portion of both the household and institutional markets remains untapped.

The research indicates that the retail market offers the largest potential for expanding sales of dehydrated mashed potatoes and French fries. Four-fifths of the total food supply moves through retail channels, but so far only three-fifths of the dehydrated mashed potatoes—and two-fifths of the frozen French fries produced, are sold through retail stores.

Concurrent retail store audits in Philadelphia, Milwaukee, New Orleans, and Oakland, show that dehydrated mashed and frozen French fried potatoes accounted for 10 percent of total potato sales in supermarkets in 1960, whereas restaurants in Philadelphia used dehydrated mashed and frozen French fries to prepare 27 percent of the potatoes they served.

The development of new potato products since 1956 has benefited farmers, consumers, processors, and others. Consumers have been offered a number of new convenient-to-use, easy-to-store, high-quality potato products at reasonable prices. Acceptance of these products by consumers, both household and institutional, is evidenced by the fact that the long-term decline in potato consumption per person has leveled off, with a favorable effect on farmers' income. In addition, the introduction of new products has expanded the potato processing industry.

No precise statistical measurement has been made of the effect of dehydrated and frozen products on potato consumption in all forms or income-generating effects of new potato products. The recent innovations and the unavailability of prices paid for potatoes by processors make it difficult to get estimates of the effect of new potato products on income.

By making what appear to be logical assumptions, it is possible to get some indication of the impact of new products on per person use of potatoes for food, and on gross returns to growers. The central assumption is that, had there been an increase in the use of dehydrated and frozen potato products since 1956, per person use of potatoes in all forms for the years 1957 through 1960 would have been the same as the 1956 level.

This indeed seems reasonable, since the consumption behavior for potatoes in the years preceding 1956, has shown a steady decline in the per person consumption rate. Accordingly, actual per person use of potatoes for food during the years 1957 through 1960 exceeded the 1956 level by 1.0, 2.1, 3.0, and 6.3 pounds per person, respectively. A rough approximation of the effect of this increased use of potatoes shows that gross return to growers was increased by \$14 to \$17 million for the 1960 crop. Similarly, increased processing in 1957, 1958, and 1959, meant increased gross returns to growers, though the increases were smaller than in 1960.

Now, let us examine some of the implications of increased processing to consumers. Available sales figures and consumption statistics leave no doubt that processed potato products fit well in today's living patterns of suburbia, working wives, and the trend toward quick and easy-to-prepare foods. However, whether or not the consumer is paying too high a price for the added convenience built into potatoes by processing is not as easily resolved. From the data gathered in previous and current research, costs of dehydrated and frozen potato products appear to be favorable in relation to fresh potatoes, if one places some monetary value on the time saved in preparation and on the reduction of loss through spoilage.

The case for processed potatoes as positive contributors to the welfare of the processing segment of the potato industry also is obvious. The expansion, both in existing and new plants, for

frozen potato products, granules, and other forms of processed potatoes has been pronounced. By May 1961, there were 38 plants producing frozen French fries, and 12 additional plants were either in the planning stage, under construction, or not yet in production. Most of these plants were in the northern States where late-crop potatoes are produced and stored.

A good example of what a new potato product can mean to various sectors of the economy is illustrated by potato flakes. This product was first developed by Agricultural Research Service scientists, and market-tested by Economic Research Service marketing researchers.

This was in 1956. By May 1961, there were 16 processors of dehydrated mashed potatoes, 12 of which were producing flakes. In addition, there were five flake plants which were under construction, or not yet in production, while two were not currently operating.

The estimated 1961 market value of flakes is slightly over \$30 million, or one-third the total value of dehydrated mashed potatoes.

The advantages afforded by potato flakes are several. They provide producers and processors with another outlet for plentiful potato harvests. Flakes of a good quality are made from most varieties having a wide range of solids content, and they allow marketing men a real saving in transportation and storage. The development of potato flakes also has had some effect on growth of the general economy.

For instance, investment in equipment for flake plants alone amounted to \$2.5 million by 1959. In addition, \$10 million is being spent annually for labor, management, advertising, packaging materials, and other goods and services. Even greater expenditures have occurred for plant, equipment, and related items in other sectors of the potato processing industry.

Generally speaking, the impact of new products on the economy tends to be beneficial in the long run. And spending for new and more efficient equipment and new plant layout tends to promote economic growth.

The development and testing of potato flakes is but one of the many research projects undertaken by USDA. Marketing researchers in the Economic Research Service are constantly seeking new outlets for farm-produced foods and fibers. This is done by market potential studies including product and

market tests of new products developed by USDA and producer-oriented organizations.

Within the next year, we may see a further increase in sales volume of pre-kitchen prepared potatoes and the introduction of several new forms of processed potatoes.

The author is a staff member of the Market Potentials Branch, Economic Research Service, USDA.



U.S. Department of Agriculture provides services that assure consumers quality products. Above, an AMS inspector cuts potato to check for internal discoloration. Below, an AMS employee evaluates the color quality of frozen fresh fried potatoes as part of USDA grading process.



Today, with self-service retailing, most of the 6,000 or more items handled by a modern food store must sell themselves.

Guiding Shoppers Through Retail

by HUGH M. SMITH and MICHAEL G. VAN DRESS

IN YEARS GONE BY, a shopper going into a grocery store, a meat market, a dairy store or any other food shop had a list in her pocketbook which itemized every purchase she was going to make. But times have changed.

Today, some customers enter the store knowing exactly the items they plan to buy. But a larger number of customers postpone many of their buying decisions until they are inside the store.

These are the customers that must be sold food products at the point-of-purchase. This means, under self-service retailing of today, that most of the 6,000 or more items handled by a modern food store must sell themselves. How well the selling job is done, of course, depends on the many factors that make up the retailer's merchandising practices.

But the basic requirement to a sale is that the shopper and the product that is offered for sale must meet. This is called product exposure.

Recognizing the importance of impulse buying in food purchases and the necessity of getting the shopper and product together, USDA marketing researchers have explored ways of influencing customer traffic within the store to obtain maximum customer exposure to all items.

They have found that customers can be attracted to designated store areas by displaying items with strong pulling power at these locations. In addition, the researchers found that the proper placement of such items throughout the store encouraged greater coverage of the store's selling area and exposed

shoppers to a greater variety of products while reducing congestion in the aisles.

Although broad principles are being established, at this time it is not possible to specify "one best" store layout or commodity arrangement. Some variation is necessary from one store to another, depending upon such things as type, size, and location of store; differences in customer eating habits and income; and product introductions and discontinuances, including seasonal items.

Because of these conditions, retailers can benefit immensely by acting as part-time researchers in their own stores. They can observe the actions of their customers while shopping, noting the flow of customer traffic and what customers purchase or inspect. These data, in conjunction with sales information and customer count, can be used to improve store layout and commodity arrangement.

Many specific problems, such as areas of the store not being shopped, can be recognized and resolved by studying customer shopping patterns.

For example, one or two items with strong pulling power substituted for impulse commodities in a low traffic area of the store may be sufficient to materially improve customer traffic. The impulse commodities moved to a higher traffic area would receive increased exposure to consumers. One food chain reported boosting traffic for nonfood items by 40 percent after relocating selected products from the corners of the store to the center.

Some commodities have strong pull-

ing power in all stores, while others must be evaluated for each store. The pulling "power" of an item depends upon the nature of customer demand for and frequency of purchase of the product.

For example, salt is considered a demand item; however, it does not have as strong pulling power as other items because it is not purchased frequently. On the other hand, cookies and crackers have strong pulling power because they are frequently purchased and have customer demand. Items having the ability or power to pull customers regardless of location within the store are referred to as "power items."

In a study of 3,500 customers in 13 supermarkets, it was apparent that certain commodity groups could be depended upon to draw about the same proportion of customers without extensive variation from one store to another. Cookies and crackers fell into this category with a rather stable 30 percent of shoppers buying. Coffee and canned vegetables attracted about 25 percent of the customers as buyers.

Cereal, beverages, and canned fruit were purchased by about 20 percent of all customers. Canned juices, canned soups, canned seafood, and baby foods were consistently purchased by a range of 20 to 10 percent of the customers. Some nonfood commodity groups with strong pulling power include paper products, soaps, and health and beauty aids, purchased respectively by 35, 27, and 18 percent of all customers.

Other commodity groups with substantial pulling power and moderate variation in sales from one store to another included candy, sugar, dressings, preserves, baking needs, mixes, and tea. Customer purchases ranged from a high

Food Stores

of 16 percent for candy to 8 percent for tea.

While the frequency of purchase of some commodities appears to be fairly consistent among stores, research indicates that many other commodities sell well in some stores but poorly in others. Such things as the location of the commodity group within a store, size of display and other promotional efforts, and competition from other stores and ethnic groups patronizing the store appeared to have strong influence on sales of these commodities. Commodities in this category include spaghetti, prepared foods, pet foods, processed milk, potato chips, spices and flavoring, desserts, miscellaneous food items, flour, canned meats, syrups, dehydrated vegetables, and dietetic foods.

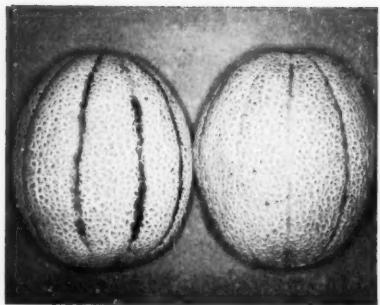
The average percentage of customers buying these foods ranged in the order listed from 14 for spaghetti to 1½ for dietetic foods. However, between retail food outlets these percentages ranged from 40-100 percent of the average for all stores. For these commodity groups, each store manager must determine whether the product is sought after by customers in his trading area.

A primary objective of analyzing the paths and purchases of customers is to improve thoroughness of shopping. Exposure of customers to all displays will very likely result in more impulse purchasing than exposure to only a few displays. Thus, placing all major daily needs in one location near the front of the store should be avoided. Also keep in mind, customers will not purchase impulse items unless they are conveniently exposed to them.

The authors are staff members of the Market Development Branch, Economic Research Service, USDA.



THE CHANGING MARKET



CANTALOUPS

Cantaloups, one of the luscious delights of summertime's fair fields, have come a long way in care and development since they arrived on American soil from the Castle of Cantalupo in Italy, where they were first grown in Europe many years ago.

This popular warty-rind melon with reddish-orange flesh has undergone a series of sharp-eyed hydrocooling tests by AMS marketing researchers W. J. Lipton and J. K. Stewart, in cooperation with certain segments of industry.

This research, which took place during the past three years, has turned up some very interesting facts stemming from the hydrocooling process, versus room-cooled methods.

Here are some of the nuggets of information the researchers found:

Hydrocooling had no adverse effect on the market quality of cantaloups. When compared to room-cooled melons, the market quality was about the same in the two groups after a simulated maximum transit period at low temperature, and a simulated wholesale-retail period at room temperature.

As for weight changes during hydrocooling, some growers, shippers, and receivers of cantaloups believed that warm melons exposed to cold water might well absorb water and deteriorate prematurely. But tests proved that melons did not increase in weight during

hydrocooling which, of course, indicated they did not absorb water.

Sometimes, however, a small amount of free surface moisture did stick to the melons, but it never exceeded 1 gram per melon.

Also, these tests showed that the addition of fungicides (sodium orthophenylphenate at 1,000 ppm or calcium hypochlorite at 200 ppm) reduced stem-scar and surface mold materially.

Neither cooling method nor the addition of fungicides significantly influenced the incidence of *Rhizopus* rot or suture browning. The latter disorder—a browning of the non-netted sutures—is described for the first time. It was also found that hydrocooling did not influence the formation of sunken surface areas or the firmness of melons.

Initially warm melons—that is, those above 90° F. generally deteriorated more rapidly than initially cool melons—about 70° F. Therefore, harvesting during the hottest part of the day should be avoided. And, after harvesting, melons should be shaded while they are still waiting to be cooled.

The effect of hydrocooling, insofar as cracking of melons is concerned, was evaluated in both a commercial hydrocooler and a pilot unit, and found to be negligible. The two units of the commercial cooler were each 20 feet long, with a slatted wooden belt for moving the melons. The melons dropped 18 inches into the first unit, 5 inches onto the conveyor, 22 inches into the second unit, and 6 inches onto another conveyor.

Another important finding turned up in these tests was that early harvested melons showed superior market quality.

FROZEN FOODS

Frozen foods should be held at 0° F. or below, from the time they are frozen until they reach the consumer. Failure to maintain this temperature

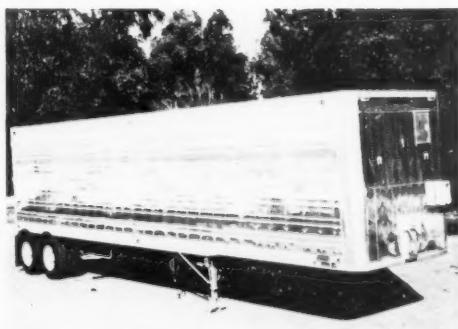
can result in lessening the storage life of the product, and loss of valuable nutrients.

Today, speeding along the Nation's highways like a drove of mechanized dinosaurs, some 34,000 refrigerated trailers are carrying ever-increasing varieties of frozen foods to market. Studies by industry and Agricultural Marketing Service researcher Dave W. Kuennenli indicate that many refrigerated trailers now in service do not maintain 0° F. throughout all boxes in a load of frozen food.

AMS marketing researchers have also completed tests of two trailers traveling from Omaha, Nebraska, to Dallas, Texas, to determine the effectiveness of new developments incorporated in those trailers.

Improved features in the test trailers include 4- to 6-inch thick insulation in the floors, sides, ends, and roof; floor racks; extruded aluminum floors with crossflow vents; onside ribbed plastic wall lining; and 5- or 7½-ton refrigeration units in each trailer, connected with six canvas air ducts.

These improvements in design and construction are intended to help carriers maintain frozen foods closer to desired temperatures than was heretofore possible . . . by increasing air circulation and reducing heat transfer, or penetration.



- Effect of Hydrocooling on Market Quality of Cantaloups
- New Trailer Designs Benefit Frozen Foods in Transit
- Eggs Featured on March Plentiful Foods List
- Dipping Peaches in Hot Water Reduces Postharvest Decay
- USDA Purchases Ground Beef for School Lunch Program

The trailers were precooled to 15° F. with dry ice, before being loaded with frozen pies and TV dinners. The thermostats on both trailers were set at —10° F. before being loaded.

One of the trailers performed better than the other primarily due to thicker floor insulation, more air space under the load, a diagonal type wall ribbing, and a cross-ventilating type floor.

The average bottom commodity temperature and the maximum temperature in the better-performing trailer was below that of the other trailer throughout the test. In both trailers, however, the maximum temperatures were reduced for the overall test.

In each trailer the defrost cycle was started and stopped manually by the driver throwing the defrost switch as he drove down the highway. The driver had to estimate how long it would take the coil to defrost before restarting the refrigeration cycle. Marketing researchers suggest that an automatic defrost cycle would improve the overall operating efficiency of the refrigeration unit and assure that the refrigeration cycle was turned back on as soon as the accumulation of ice and frost on the coils had been dissipated.

One trailer had a refrigeration unit of larger capacity than the other. Researchers determined that more effective insulation in the other trailer compensated for its smaller refrigeration unit and that the improved design resulted in better product temperature.

Marketing research tests on these two trailers show that progress has been made in reducing temperatures of frozen food during transit, and also indicate the direction which new improved designs should take.

Additional tests will be made on other late model equipment to determine those features which are considered improvements, and of definite interest to the industry.

Write to Marketing Information Division, AMS, USDA, for copy of full report.

EGGS

Whether March roars in like a lion or enters as meekly as a lamb, it brings us two all-time favorites: The first day of spring, and an abundance of one of nature's most popular foods—eggs. For, traditionally, March is National Egg Month and they'll be plentiful.

Milk and dairy products will be plentiful, too, as well as peanuts and their products, from last year's bumper crop.

While the following foods will not be generally plentiful across the Nation, they'll be in ample supply in certain areas. So these items should be checked locally: Dry edible pea beans, pinto, red kidney, and Black-eye beans. Also that tasty favorite, grapefruit, will be plentiful in certain sections of the country.

PEACHES

Heat is one of the oldest methods used to kill undesirable organisms in food. Its use has ordinarily been limited to foods that are cooked before eaten.

Lemons are one exception. They can be treated with hot water to inhibit brown rot, and then be marketed as raw products.

Raw peaches are another fresh product which may soon receive a similar heat treatment in commercial channels to prevent postharvest decay. AMS marketing researcher Wilson L. Smith has found that raw peaches, like the lemons, are not damaged in the process. Nor do the heat treatments affect ripening.

The peaches are dunked in hot water, prior to the hydrocooling process, killing undesired bacteria. As in the hot water treatment of lemons, a number of temperature-timing combinations can be used.

Marketing researchers successfully reduced postharvest decay of peaches by dipping fruit in water at 120° F. for 7 minutes, at 130° for 3 minutes, and at 140° for 2 minutes.



The scientists made sure the heat treatment killed the right kind of decay-causing organisms by inoculating fresh peaches with the fungi causing brown and Rhizopus rots of peaches after harvest. The inoculated peaches were then submerged 7 minutes in water heated to 120° F. Another group of inoculated peaches was not given the hot water treatment.

Both treated and untreated peaches were held six days in a room kept at 70° F. Only about a fourth of the treated peaches had Rhizopus decay, and less than a tenth showed brown rot at the end of the test period.

But over 85 percent of the untreated peaches developed brown rot, and near-

THE CHANGING MARKET

PEACHES

(continued from page 15)

ly 75 percent were damaged by Rhizopus decay. The untreated peaches would not have been marketable.

The 120° F. hot water treatment, therefore, can offer important protection for peaches in commercial channels. Treatment at temperatures above 120° F. gave protection, too, but the skins of some of the peaches developed a brownish mottle when treated at 140° F.

One of the tests gave an approximation of actual commercial conditions. In this test, there was a 24-hour delay from the time the peaches were inoculated with the fungi and the time they were treated. Decay reduction was as good or slightly better after the 24-hour delay than treatment immediately after inoculation.

This timing factor is particularly important because it shows that infections already established in the fruit at harvest can be destroyed.

The hot water treatment has a number of other attractive features. For instance, there is no residue problem such as would be encountered with chemical applications. The treatment is simple, relatively inexpensive, and could be introduced just before the hydro-cooling process without unduly disrupting existing processing procedures.

Dr. Smith is now developing a method for commercial application of this hot water treatment. Meanwhile, marketing research is continuing on ways to apply the same kind of treatment to other fresh produce.

BEEF

School kids all over the country are enjoying the results of a purchase pro-



gram recently completed by the U.S. Department of Agriculture. So are livestock producers.

Since last summer, before the school year got under way, USDA's Agricultural Marketing Service has bought 40,740,000 pounds of frozen ground beef, at a total cost of \$17,164,000. The beef is being distributed to schools which take part in the National School Lunch Program, for use in providing better lunches to the 14 million children who are eating lunch at school under that program. The almost 41 million pounds of beef being distributed will make the "main dish" portion of a total of 244 million school lunches—which means that everyone eating lunch at school will get an average of 18 servings out of the purchase.

This choice of ground beef as one of the food items to be distributed to schools is a popular one with the customers—the children who eat lunch at school. "Hamburgers" rate high with the school age set—in fact with the younger generation, hamburger and

milkshake rate the nation's number one food combination.

The distribution of ground beef to schools is also popular with the people who plan school lunches. School lunch managers ask for ground beef as a distribution item—not only because it makes a good nutritious lunch, but also because there are so many ways in which it can be used in the preparation of lunches.

The purchase program has had important results in the marketing of livestock and meat, too. The 40,740,000 pounds of beef purchased made a market for the equivalent of some 110,000 head of cattle. The purchases by USDA injected extra demand into the marketplace during the fall months—a period when range cattle prices are often under pressure of heavy supply.

This fall, prices of some classes of cattle held \$1 to \$1.50 a hundred-weight higher than they were a year ago—due, in part at least, to the effects of the ground beef purchase program. Beneficial effects of the extra demand were spread widely through the country with the greatest impact in the cattle-producing areas of the West and Midwest.

These are direct and tangible benefits flowing from the purchase of ground beef and its distribution to schools. In addition, such distribution—and the accompanying suggestions of ways to use the product—have been found to be an effective stimulant to additional purchases of the commodity by the school lunch managers.

Most of the food used in school lunches is purchased by the schools themselves in the open market. Such purchases this year are expected to provide a local market for over \$600 million worth of food.

